

568047

Electronics  
Sep 14 1978. (223)

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00010      NAM      KEEBUG      1.1
00015      *  BY C.SCHOENMAKERS DATE 770313
00020      OPT      S,O,NOG
00021 FC00      ORG      $FC00
00030 FC00 FE F100 IO      LDX      IOV
00040 FC03 6E 00      JMP      X
00050 FC05 FE F102 POWDWN LDX      NIO
00060 FC08 6E 00      JMP      X
00070 FC0A FE F106 SWIR      LDX      SWIVEC
00080 FC0D 6E 00      JMP      X
-----
00090 FC0F 86 11      RDRON LDA A  #$11
00100 FC11 BD FCA8      JSR      OUTCH
00110 FC14 B6 F119 NOECHO LDA A  STATUS
00120 FC17 8A 01      ORA A  #01
00130 FC19 7E FE00      JMP      ECHO1
-----
00140 FC1C 8D F1      LOAD BSR      RDRON
00150 FC1E BD FCAB LOAD3 JSR      INCH
00160 FC21 81 53      CMP A  #'S
00170 FC23 26 F9      BNE      LOAD3
00180 FC25 BD FCAB      JSR      INCH
00190 FC28 81 30      CMP A  #'0
00200 FC2A 26 F2      BNE      LOAD3
00201 FC2C 8D 34      BSR      PRTHDR
-----
00202 FC2E 8D 7B      LOAD4 BSR      INCH
00203 FC30 81 53      CMP A  #'S
00204 FC32 26 FA      BNE      LOAD4
00205 FC34 8D 75      BSR      INCH
00210 FC36 81 39      CMP A  #'9
00220 FC38 27 25      BEQ      LOAD21
00230 FC3A 81 31      CMP A  #'1
00240 FC3C 26 F0      BNE      LOAD4
00250 FC3E 7F F112      CLR      CKSM
00260 FC41 8D 79      BSR      BYTE
00270 FC43 80 02      SUP A  #2
00280 FC45 B7 F10E      STA A  PYTEC1
00290 FC48 8D 64      BSR      RADDR
00300 FC4A 8D 70      LOAD11 BSR      BYTE
00310 FC4C 7A F10E      DEC      PYTEC1
00320 FC4F 27 05      BEQ      LOAD15
00330 FC51 A7 00      STA A  X
00340 FC53 08      INX
00350 FC54 20 F4      BBA      LOAD11
00360 FC56 7C F112 LOAD15 INC      CKSM
00370 FC59 27 D3      BEQ      LOAD4
00380 FC5B 86 3F      OUTCM LDA A  #'?
00390 FC5D 8D 49      BSR      OUTCH
00400 FC5F      LOAD21 EQU      *
00410 FC5F 7E FD51 C1      JMP      CONTEL
-----
00420 FC62 8D 58      PRTHDR BSR      BYTE
00430 FC64 80 02      SUB A  #2
00440 FC66 B7 F10F      STA A  PYTEC1
00450 FC69 B7 F10F      STA A  PYTEC2
00460 FC6C 8D 40      BSR      RADDR
00470 FC6E 0E F1F8      LDX      #TABLE1

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80  
+RTS

10KDA 2530

HEAD CR

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|       |      |         |        |       |         |      |
|-------|------|---------|--------|-------|---------|------|
| 00480 | FC71 | 8D 49   | PRTHD1 | BSR   | BYTE    |      |
| 00490 | FC73 | A7 00   |        | STA A | X       |      |
| 00495 | FC75 | 08      |        | INX   |         |      |
| 00500 | FC76 | 7A F10E |        | DEC   | BYTEC1  |      |
| 00510 | FC79 | 26 F6   |        | BNE   | PRTHD1  |      |
| 00520 | FC7B | BD FDF7 |        | JSR   | RDROFF  |      |
| 00525 | FC7E | BD FD35 |        | JSR   | CUTS    |      |
| 00530 | FC81 | CE F1F8 |        | LDX   | #TABLE1 |      |
| 00540 | FC84 | A6 00   | PRTHD3 | LDA A | X       |      |
| 00550 | FC86 | 8D 20   |        | BSR   | OUTCH   |      |
| 00551 | FC88 | 08      |        | INX   |         |      |
| 00560 | FC89 | 7A F10F |        | DEC   | BYTEC2  |      |
| 00570 | FC8C | 26 F6   |        | BNE   | PRTHD3  |      |
| 00580 | FC8E | BD FEF6 |        | JSR   | INCMD   |      |
| 00590 | FC91 | 81 59   |        | CMP A | #Y      |      |
| 00600 | FC93 | 27 02   |        | BEQ   | **+4    |      |
| 00601 | FC95 | 20 C8   | C11    | BRA   | C1      |      |
| 00603 | FC97 | 7E FC0F |        | JMP   | BDRON   | +RTS |
| 00620 | FC9A | 44      | OUTHL  | LSR A |         |      |
| 00630 | FC9B | 44      |        | LSR A |         |      |
| 00640 | FC9C | 44      |        | LSR A |         |      |
| 00650 | FC9D | 44      |        | LSR A |         |      |
| 00660 | FC9E | 84 0F   | OUTHR  | AND A | #\$F    |      |
| 00670 | FCA0 | 8F 30   |        | ADD A | #\$30   |      |
| 00680 | FCA2 | 81 39   |        | CMP A | #\$39   |      |
| 00690 | FCA4 | 23 02   |        | PLS   | OUTCH   |      |
| 00700 | FCA6 | 8B 07   |        | ADD A | #\$7    |      |
| 00710 | FCA8 | 7E FEFD | OUTCH  | JMP   | OUTEE   | +RTS |
| 00720 | FCAB | 7E FF0D | INCH   | JMP   | INEEE   |      |
| 00730 | FCAE | 8D 0C   | PADDR  | BSR   | PYTE    |      |
| 00740 | FCB0 | B7 F113 |        | STA A | XHI     |      |
| 00750 | FCB3 | 8D 07   |        | BSR   | BYTE    |      |
| 00760 | FCB5 | B7 F114 |        | STA A | XLO     |      |
| 00770 | FCB8 | FE F113 | BADR1  | LDX   | XHI     |      |
| 00780 | FCBB | 39      |        | RTS   |         |      |
| 00790 | FCBC | 8D 53   | BYTE   | BSR   | INHEX   |      |
| 00800 | FCEE | 48      |        | ASL A |         |      |
| 00810 | FCEF | 48      |        | ASL A |         |      |
| 00820 | FCC0 | 48      |        | ASL A |         |      |
| 00830 | FCC1 | 48      |        | ASL A |         |      |
| 00840 | FCC2 | 16      |        | TAP   |         |      |
| 00850 | FCC3 | 8D 4C   |        | BSR   | INHEX   |      |
| 00860 | FCC5 | 1F      |        | APA   |         |      |
| 00870 | FCC6 | 16      |        | TAP   |         |      |
| 00880 | FCC7 | FF F112 |        | ADD R | CKSM    |      |
| 00890 | FCCA | F7 F112 |        | STA R | CKSM    |      |
| 00900 | FCCD | 39      |        | RTS   |         |      |
| 00904 | FCCE | CE FF7C | OUTSTG | LDX   | #MCL1   |      |
| 00906 | FCD1 | 20 03   |        | BRA   | PDATA1  |      |
| 00910 | FCD3 | 8D D3   | PDATA2 | BSR   | OUTCH   |      |
| 00920 | FCD5 | 08      |        | INX   |         |      |
| 00930 | FCD6 | A6 00   | PDATA1 | LDA A | X       |      |
| 00940 | FCD8 | 81 04   |        | CMP A | #4      |      |
| 00950 | FCEA | 26 F7   |        | BNF   | PDATA2  |      |

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|       |      |            |        |       |            |
|-------|------|------------|--------|-------|------------|
| 00960 | FCDC | 39         |        | RTS   |            |
| 00970 | FCDD | 8D CF      | CHANGE | BSR   | BADDR      |
| 00980 | FCDF | 8D 54      |        | BSR   | OUTS       |
| 00990 | FCE1 | 8D 43      | CHA1   | BSR   | OUT2H      |
| 01000 | FCE3 | 8D C6      |        | BSR   | INCH       |
| 01010 | FCE5 | 81 0D      |        | CMP A | #\$D       |
| 01020 | FCE7 | 27 AC      |        | BEQ   | C11        |
| 01030 | FCE9 | 81 5E      |        | CMP A | #'         |
| 01040 | FCEB | 27 20      |        | BEQ   | CHA11      |
| 01050 | FCED | 81 20      |        | CMP A | #\$20      |
| 01060 | FCEF | 26 0D      |        | BNE   | CHA12      |
| 01070 | FCF1 | 8D C9      |        | BSR   | BYTE       |
| 01075 | FCF3 | 09         |        | DEX   |            |
| 01080 | FCF4 | A7 00      |        | STA A | X          |
| 01090 | FCF6 | A1 00      |        | CMP A | X          |
| 01100 | FCF8 | 27 03      |        | BEQ   | CHA14      |
| 01110 | FCFA | 7E FC5B C3 |        | JMP   | OUTQM      |
| 01120 | FCFD | 08         | CHA14  | INX   |            |
| 01130 | FCFE | FF F113    | CHA12  | STX   | XHI        |
| 01140 | FD01 | 8D CB      | CHA10  | BSR   | OUTSTG     |
| 01160 | FD03 | CE F113    |        | LDX   | #XHI       |
| 01170 | FD06 | 8D 29      |        | BSR   | OUT4HS     |
| 01180 | FD08 | FE F113    |        | LDX   | XHI        |
| 01190 | FD0B | 20 D4      |        | BRA   | CHA1       |
| 01200 | FD0D | 09         | CHA11  | DEX   |            |
| 01205 | FD0E | 09         |        | DEX   |            |
| 01210 | FD0F | 20 ED      |        | BRA   | CHA12      |
| 01220 | FD11 | 8D 98      | INHEX  | BSR   | INCH       |
| 01230 | FD13 | 80 30      |        | SUB A | #\$30      |
| 01240 | FD15 | 2B E3      |        | BMI   | C3         |
| 01250 | FD17 | 81 09      |        | CMP A | #\$09      |
| 01260 | FD19 | 2F 0A      |        | BLE   | IN1HG      |
| 01270 | FD1B | 81 11      |        | CMP A | #\$11      |
| 01280 | FD1D | 2B DB      |        | BMI   | C3         |
| 01290 | FD1F | 81 16      |        | CMP A | #\$16      |
| 01300 | FD21 | 2E D7      |        | BGT   | C3         |
| 01310 | FD23 | 80 07      |        | SUB A | #7         |
| 01320 | FD25 | 39         | IN1HG  | RTS   |            |
| 01330 | FD26 | A6 00      | OUT2H  | LDA A | X          |
| 01340 | FD28 | BD FC9A    | OUT2HA | JSR   | OUTH1      |
| 01350 | FD2B | A6 00      |        | LDA A | X          |
| 01360 | FD2D | 08         |        | INX   |            |
| 01370 | FD2E | 7E FC9F    |        | JMP   | OUTHR +RTS |
| 01380 | FD31 | 8D F3      | OUT4HS | BSR   | OUT2H      |
| 01390 | FD33 | 8D F1      | OUT2HS | BSR   | OUT2H      |
| 01400 | FD35 | 86 20      | OUTS   | LDA A | #\$20      |
| 01410 | FD37 | 7E FCA8    |        | JMP   | OUTCH +RTS |
| 01420 | FD3A |            | START  | EQU   | * INIT     |
| 01430 | FD3A | 8E F1B0    |        | LDS   | #TSTACK    |
| 01440 | FD3D | BF F116    |        | STS   | TSP        |
| 01450 | FD40 | CE FDC5    |        | LDX   | #SFE       |
| 01460 | FD43 | FF F106    |        | STX   | SWIVFC     |
| 01462 | FD46 | FF F102    |        | STX   | NIC        |
| 01464 | FD49 | 86 03      |        | LDA A | #03        |







|       |      |    |      |            |         |
|-------|------|----|------|------------|---------|
| 01466 | FD4B | B7 | F000 | STA A      | ACIAAD  |
| 01468 | FD4E | 7F | F119 | CLR        | STATUS  |
| 01470 | FD51 | CE | F000 | CONTRL LDX | #ACIAAD |
| 01472 | FD54 | FF | F104 | STX        | ACIAVC  |
| 01474 | FD57 | 86 | B1   | LDA A      | #\$B1   |
| 01476 | FD59 | A7 | 00   | STA A      | X       |
| 01478 | FD5B | 8E | F1E2 | CONT2 LDS  | #CSTACK |
| 01480 | FD5E | BD | FDF7 | JSR        | RDROFF  |
| 01482 | FD61 | BD | FDF2 | JSR        | PNHOFF  |
| 01484 | FD64 | CE | FF75 | LDX        | #MCL0   |
| 01486 | FD67 | BD | FCD6 | JSR        | PDATA1  |
| 01488 | FD6A | BD | FEF6 | JSR        | INCMD   |
| 01500 | FD6D | 16 |      | TAB        |         |
| 01510 | FD6E | 8D | C5   | BSR        | OUTS    |
| 01520 | FD70 | C1 | 50   | CMP B      | #'P     |
| 01530 | FD72 | 27 | 42   | BEQ        | CL1     |
| 01540 | FD74 | C1 | 4C   | CMP B      | #'L     |
| 01550 | FD76 | 26 | 03   | BNE        | **+5    |
| 01560 | FD78 | 7E | FC1C | JMP        | LOAD    |
| 01570 | FD7B | C1 | 4D   | CMP B      | #'M     |
| 01580 | FD7D | 26 | 03   | BNE        | **+5    |
| 01590 | FD7F | 7E | FCDD | JMP        | CHANGE  |
| 01600 | FD82 | C1 | 54   | CMP B      | #'T     |
| 01610 | FD84 | 26 | 03   | BNE        | **+5    |
| 01620 | FD86 | 7E | FFBA | JMP        | TRACE   |
| 01630 | FD89 | C1 | 52   | CMP B      | #'R     |
| 01632 | FD8B | 27 | 44   | BEQ        | PRNTRG  |
| 01634 | FD8D | C1 | 47   | CMP B      | #'G     |
| 01636 | FD8F | 26 | C0   | BNE        | CONTRL  |
| 01638 | FD91 | BD | FCAB | JSR        | INCH    |
| 01640 | FD94 | 81 | 0D   | CMP A      | #\$0D   |
| 01650 | FD96 | 27 | 17   | BEQ        | CONTIN  |
| 01660 | FD98 | BD | FD13 | JSR        | INHEX+2 |
| 01664 | FD9B | BD | FCBE | JSR        | BYTE+2  |
| 01666 | FD9E | BD | FCB0 | JSR        | BADDR+2 |
| 01671 | FDA1 | CE | F113 | LDX        | #XHI    |
| 01672 | FDA4 | A6 | 00   | LDA A      | X       |
| 01673 | FDA6 | E6 | 01   | LDA B      | 1,X     |
| 01674 | FDA8 | FE | F116 | LDX        | TSP     |
| 01675 | FDAB | A7 | 06   | STA A      | 6,X     |
| 01676 | FDAD | E7 | 07   | STA B      | 7,X     |
| 01677 | FDAF | 73 | F004 | CONTIN COM | TRACAD  |
| 01680 | FDB2 | BE | F116 | LDS        | TSP     |
| 01681 | FDB5 | 3E |      | RTI        |         |
| 01682 | FDB6 | 8D | 37   | CL1 BSR    | INCH1   |
| 01690 | FDB8 | 81 | 48   | CMP A      | #'H     |
| 01695 | FDEA | 27 | 48   | BEQ        | PUNCH   |
| 01700 | FDBC | 81 | 54   | CMP A      | #'T     |
| 01710 | FDBE | 26 | 03   | BNE        | **+5    |
| 01720 | FDC0 | 7E | FEA2 | JMP        | PRINT   |
| 01730 | FDC3 | 20 | 8C   | BRA        | CONTRL  |
| 01740 | FDC5 |    | SFE  | EQU        | *       |
| 01745 | FDC5 | BF | F116 | STS        | TSP     |
| 01750 | FDC8 | 30 |      | TSX        |         |

OUTCH

STX

LDX

STX

LDAA

STAA

OVC

INCH

Ivec

#\$11

ACIAAD

+1

+1

+2

+3







|       |      |    |         |              |               |
|-------|------|----|---------|--------------|---------------|
| 01760 | FDC9 | 6D | 06      | TST          | 6,X           |
| 01770 | FDCB | 26 | 02      | BNE          | **+4          |
| 01780 | FDCD | 6A | 05      | DEC          | 5,X           |
| 01790 | FDCF | 6A | 06      | DEC          | 6,X           |
| 01820 | FDD1 | 8D | 03      | PRNTRG BSR   | PRTREG        |
| 01825 | FDD3 | 7E | FD51 C4 | JMP          | CONTRL 7EFD5B |
| 01828 | FDD6 | FE | F116    | PRTREG LDX   | TSP           |
| 01830 | FDD9 | 08 |         | INX          |               |
| 01835 | FDDA | BD | FD33    | JSR          | OUT2HS        |
| 01840 | FDDD | BD | FD33    | JSR          | OUT2HS        |
| 01850 | FDE0 | BD | FD33    | JSR          | OUT2HS        |
| 01860 | FDE3 | BD | FD31    | JSR          | OUT4HS        |
| 01870 | FDE6 | BD | FD31    | JSR          | OUT4HS        |
| 01880 | FDE9 | CE | F116    | LDX          | #TSP          |
| 01900 | FDEC | 7E | FD31    | JMP          | OUT4HS +RTS   |
| 01930 | FDEF | 7E | FF0D    | INCHI JMP    | INEEE         |
| 01940 | FDF2 | 86 | 14      | PNHOFF LDA A | #S14          |
| 01950 | FDF4 | 7E | FEFD    | OUTCH1 JMP   | OUTEE         |
| 01952 | FDF7 | 86 | 13      | RDROFF LDA A | #S13          |
| 01954 | FDF9 | 8D | F9      | BSR          | OUTCH1        |
| 01956 | FDFB | B6 | F119    | ECHO LDA A   | STATUS        |
| 01958 | FDFE | 84 | FE      | AND A        | #SFE 7F       |
| 01960 | FE00 | B7 | F119    | ECHO1 STA A  | STATUS        |
| 01962 | FE03 | 39 |         | RTS          |               |
| 01964 | FE04 |    | PUNCH   | EQU          | *             |
| 01966 | FE04 | 8D | 69      | BSR          | SADDR         |
| 01968 | FE06 | CE | FFB5    | LDX          | #MTAPE4       |
| 01970 | FE09 | BD | FCD6    | JSR          | PDATA1        |
| 01972 | FE0C | BD | FF2D    | JSR          | PNCHHD        |
| 01974 | FE0F | FE | F108    | PUN35 LDX    | BEGA          |
| 01976 | FE12 | FF | F10C    | STX          | TW            |
| 01978 | FE15 | B6 | F10B    | PUN11 LDA A  | ENDA+1        |
| 01980 | FE18 | B0 | F10D    | SUB A        | TW+1          |
| 01982 | FE1B | F6 | F10A    | LDA B        | ENDA          |
| 01990 | FE1E | F2 | F10C    | SBC B        | TW            |
| 02000 | FE21 | 26 | 04      | BNE          | PUN22         |
| 02010 | FE23 | 81 | 10      | CMP A        | #16           |
| 02020 | FE25 | 25 | 02      | BCE          | PUN23         |
| 02030 | FE27 | 86 | 0F      | PUN22 LDA A  | #15           |
| 02040 | FE29 | 8B | 04      | PUN23 ADD A  | #4            |
| 02050 | FE2B | B7 | F118    | STA A        | MCONT         |
| 02060 | FE2E | 80 | 03      | SUB A        | #3            |
| 02070 | FE30 | B7 | F115    | STA A        | TEMP1         |
| 02080 | FE33 | CE | FF99    | LDX          | #MTAPE1       |
| 02090 | FE36 | 8D | 02      | BSR          | PUN40         |
| 02100 | FE38 | 20 | 24      | BRA          | PUN50         |
| 02110 | FE3A | BD | FCD6    | PUN40 JSR    | PDATA1        |
| 02120 | FE3D | 5F |         | CLR B        |               |
| 02130 | FE3E | CE | F118    | LDX          | #MCONT        |
| 02150 | FE41 | 8D | 27      | BSR          | PUNT2         |
| 02160 | FE43 | CE | F10C    | LDX          | #TW           |
| 02170 | FE46 | 8D | 22      | BSR          | PUNT2         |
| 02180 | FE48 | 8D | 20      | BSR          | PUNT2         |
| 02190 | FE4A | FE | F10C    | LDX          | TW            |

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|       |      |    |      |       |       |            |
|-------|------|----|------|-------|-------|------------|
| 02200 | FE4D | 8D | 1B   | PUN32 | BSR   | PUNT2      |
| 02210 | FE4F | 7A | F115 |       | DEC   | TEMP1      |
| 02220 | FE52 | 26 | F9   |       | BNE   | PUN32      |
| 02230 | FE54 | FF | F10C |       | STX   | TW         |
| 02240 | FE57 | 53 |      |       | CCM B |            |
| 02250 | FE58 | 37 |      |       | PSH B |            |
| 02260 | FE59 | 30 |      |       | TSX   |            |
| 02270 | FE5A | 8D | 0E   |       | BSR   | PUNT2      |
| 02280 | FE5C | 33 |      |       | PUL B |            |
| 02290 | FE5D | 39 |      |       | RTS   |            |
| 02295 | FE5E | FE | F10C | PUN50 | LDX   | TW         |
| 02300 | FE61 | 09 |      |       | DEX   |            |
| 02310 | FE62 | BC | F10A |       | CPX   | ENDA       |
| 02320 | FE65 | 26 | AE   |       | BNE   | PUN11      |
| 02330 | FE67 | 7E | FF6C |       | JMP   | PNCHTR     |
| 02340 | FE6A | EB | 00   | PUNT2 | ADD B | X          |
| 02350 | FE6C | 7E | FD26 |       | JMP   | OUT2H +RTS |
| 02360 | FE6F | CE | FF81 | SADDR | LDX   | #STRG1     |
| 02370 | FE72 | BD | FCD6 |       | JSR   | PDATA1     |
| 02380 | FE75 | CE | F108 |       | LDX   | #BEGA      |
| 02390 | FE78 | BD | FD31 |       | JSR   | OUT4HS     |
| 02400 | FE7B | BD | FF0D |       | JSR   | INEEE      |
| 02410 | FE7E | 81 | 20   |       | CMP A | #\$20      |
| 02420 | FE80 | 26 | 06   |       | BNE   | *+8        |
| 02430 | FE82 | BD | FCAE |       | JSR   | BADDR      |
| 02440 | FE85 | FF | F108 |       | STX   | BEGA       |
| 02450 | FE88 | CE | FF8B |       | LDX   | #STRG2     |
| 02460 | FE8B | BD | FCD6 |       | JSR   | PDATA1     |
| 02480 | FE8E | CE | F10A |       | LDX   | #ENDA      |
| 02490 | FE91 | BD | FD31 |       | JSR   | OUT4HS     |
| 02500 | FE94 | BD | FDEF |       | JSR   | INCH1      |
| 02510 | FE97 | 81 | 20   |       | CMP A | #\$20      |
| 02520 | FE99 | 26 | 06   |       | BNE   | *+8        |
| 02530 | FE9B | BD | FCAE |       | JSR   | BADDR      |
| 02540 | FE9E | FF | F10A |       | STX   | ENDA       |
| 02550 | FEA1 | 39 |      |       | RTS   |            |
| 02630 | FEA2 | 8D | CB   | PRINT | BSR   | SADDR      |
| 02640 | FEA4 | FE | F108 |       | LDX   | BEGA       |
| 02650 | FEA7 | FF | F10C |       | STX   | TW         |
| 02660 | FEAA | BD | FCCE |       | JSR   | OUTSTG     |
| 02680 | FEAD | CE | F10C |       | LDX   | #TW        |
| 02690 | FEB0 | BD | FD31 |       | JSR   | OUT4HS     |
| 02700 | FEB3 | FE | F10C |       | LDX   | TW         |
| 02710 | FEB6 | C6 | 10   |       | LDA B | #16        |
| 02720 | FEB8 | A6 | 00   | PRT1  | LDA A | X          |
| 02730 | FEBB | BD | FD33 |       | JSR   | OUT2HS     |
| 02740 | FEBD | 5A |      |       | DEC B |            |
| 02750 | FEBE | 26 | F8   |       | BNE   | PRT1       |
| 02760 | FEC0 | FE | F10C |       | LDX   | TW         |
| 02770 | FEC3 | C6 | 10   |       | LDA B | #16        |
| 02780 | FEC5 | A6 | 00   | PRT2  | LDA A | X          |
| 02790 | FEC7 | 8D | 1C   |       | BSR   | SELCAR     |
| 02800 | FEC9 | 08 |      |       | INX   |            |
| 02810 | FECA | 5A |      |       | DEC B |            |







|       |      |    |      |         |       |         |               |
|-------|------|----|------|---------|-------|---------|---------------|
| 02820 | FECB | 26 | F8   |         | BNE   | PRT2    |               |
| 02830 | FECD | FF | F10C |         | STX   | TW      |               |
| 02840 | FED0 | B6 | F10B |         | LDA A | ENDA+1  |               |
| 02850 | FED3 | B0 | F10D |         | SUB A | TW+1    |               |
| 02860 | FED6 | F6 | F10A |         | LDA B | ENDA    |               |
| 02870 | FED9 | F2 | F10C |         | SBC B | TW      |               |
| 02880 | FEDC | 24 | CC   |         | BCC   | PRINT+8 |               |
| 02890 | FEDE | 81 | 00   |         | CMP A | #0      | TSTA          |
| 02900 | FEE0 | 2C | C8   |         | BGE   | PRINT+8 |               |
| 02910 | FEE2 | 7E | FD51 |         | JMP   | CONTRL  | 7E FD5B       |
| 02920 | FEE5 | 36 |      | SELCAR  | PSH A |         |               |
| 02930 | FEE6 | 81 | 20   |         | CMP A | #\$20   |               |
| 02940 | FEE8 | 25 | 07   |         | BCS   | PRT3    |               |
| 02950 | FEEA | 81 | 60   |         | CMP A | #\$60   |               |
| 02960 | FEED | 24 | 03   |         | BCC   | PRT3    |               |
| 02970 | FEED | 32 |      |         | PUL A |         |               |
| 02980 | FEED | 20 | 03A1 |         | BRA   | PRT4    |               |
| 02990 | FEF1 | 32 |      | PRT3    | PUL A |         |               |
| 03000 | FEF2 | 86 | 2E   |         | LDA A | #\$2E   |               |
| 03010 | FEF4 | 20 | 07   | PRT4    | BRA   | OUTEE   | +RTS          |
| 03030 | FEF6 | 8D | 15   | INCMD   | BSR   | INEEE   |               |
| 03032 | FEF8 | 85 | 40   |         | BIT A | #\$40   |               |
| 03034 | FEFA | 27 | FA   |         | BEQ   | INCMD   |               |
| 03036 | FEFC | 39 |      |         | RTS   |         |               |
| 03040 | FEFD | 8D | 27   | OUTEE   | BSR   | SAVE    | STX Xtemp0 +1 |
| 03042 | FEFF | 37 |      |         | PSH B |         | Ldx overc +3  |
| 03050 | FF00 | E6 | 00   | OUT1A   | LDA B | X       | JSR X +2      |
| 03060 | FF02 | 57 |      |         | ASR B |         | Ldx Xtemp0 +3 |
| 03070 | FF03 | 57 |      |         | ASR B |         | RTS +1        |
| 03080 | FF04 | 24 | FA   |         | BCC   | OUT1A   |               |
| 03090 | FF06 | A7 | 01   |         | STA A | 1,X     |               |
| 03095 | FF08 | 33 |      | RESTOR  | PUL B |         |               |
| 03100 | FF09 | FE | F110 |         | LDX   | XTEMP3  |               |
| 03120 | FF0C | 39 |      |         | RTS   |         |               |
| 03130 | FF0D | 8D | 17   | INEEE   | BSR   | SAVE    | STX Xtemp0 +1 |
| 03135 | FF0F | 37 |      |         | PSH B |         | Ldx overc +3  |
| 03140 | FF10 | E6 | 00   | INC1    | LDA B | X       | JSR X +2      |
| 03150 | FF12 | 57 |      |         | ASR B |         | Ldx Xtemp0 +3 |
| 03160 | FF13 | 24 | FB   |         | BCC   | INC1    | RTS +1        |
| 03170 | FF15 | A6 | 01   |         | LDA A | 1,X     |               |
| 03180 | FF17 | 84 | 7F   |         | AND A | #\$7F   |               |
| 03190 | FF19 | 81 | 7F   |         | CMP A | #\$7F   |               |
| 03200 | FF1B | 27 | F3   |         | BEQ   | INC1    |               |
| 03220 | FF1D | F6 | F119 | 70 F119 | LDA B | STATUS  |               |
| 03204 | FF20 | C5 | 01   | 2B E6   | BIT B | #\$01   |               |
| 03206 | FF22 | 27 | DC   | 20 DC   | BEQ   | OUT1A   |               |
| 03210 | FF24 | 20 | E2   | FF FF   | BRA   | RESTOR  |               |
| 03220 | FF26 | FF | F110 | SAVE    | STX   | XTEMP3  |               |
| 03240 | FF29 | FE | F104 |         | LDX   | ACIAVC  |               |
| 03250 | FF2C | 39 |      |         | RTS   |         |               |
| 03260 | FF2D | CE | F1F8 | PNCHHD  | LDX   | #TABLE1 |               |
| 03270 | FF30 | FF | F10C |         | STX   | TW      |               |
| 03280 | FF33 | C6 | 0B   |         | LDA B | #11     |               |
| 03290 | FF35 | F7 | F118 |         | STA B | MCONT   |               |

BT? Restor  
bra OUT1A.



100-1000



|       |      |    |      |        |       |                               |
|-------|------|----|------|--------|-------|-------------------------------|
| 03300 | FF38 | C0 | 03   |        | SUB B | #3                            |
| 03310 | FF3A | F7 | F115 |        | STA B | TEMP1                         |
| 03320 | FF3D | CE | F1F8 |        | LDX   | #TABLE1                       |
| 03330 | FF40 | 8D | CB   | PCHH1  | BSR   | INEEE                         |
| 03340 | FF42 | 81 | 0D   |        | CMP A | #\$D                          |
| 03350 | FF44 | 27 | 08   |        | BEQ   | PCHH2                         |
| 03360 | FF46 | A7 | 00   |        | STA A | X                             |
| 03370 | FF48 | 08 |      |        | INX   |                               |
| 03380 | FF49 | 5A |      |        | DEC B |                               |
| 03390 | FF4A | 26 | F4   |        | BNE   | PCHH1                         |
| 03400 | FF4C | 20 | 08   |        | BRA   | PCHH3                         |
| 03410 | FF4E | 86 | 20   | PCHH2  | LDA A | #\$201                        |
| 03420 | FF50 | A7 | 00   |        | STA A | X                             |
| 03430 | FF52 | 08 |      |        | INX   |                               |
| 03440 | FF53 | 5A |      |        | DEC B |                               |
| 03460 | FF54 | 26 | F8   |        | BNE   | PCHH2                         |
| 03470 | FF56 | CE | FFA1 | PCHH3  | LDX   | #MTAPE2                       |
| 03472 | FF59 | BD | FCD6 |        | JSR   | PDATA1                        |
| 03474 | FF5C | 5F |      |        | CLR B |                               |
| 03476 | FF5D | CE | F118 |        | LDX   | #MCONT                        |
| 03478 | FF60 | BD | FE6A |        | JSR   | PUNT2                         |
| 03480 | FF63 | CE | FF77 |        | LDX   | #MCL0+2                       |
| 03482 | FF66 | BD | FE46 |        | JSR   | PUN32-7                       |
| 03484 | FF69 | 7E | FE0F |        | JMP   | PUN35                         |
| 03491 | FF6C | CE | FFAC | PNCHTR | LDX   | #MTAPE3                       |
| 03492 | FF6F | BD | FCD6 |        | JSR   | PDATA1                        |
| 03493 | FF72 | 7E | FD51 | C5     | JMP   | CONTRL                        |
| 03508 | FF75 | 0D |      | MCL0   | FCB   | \$D,\$A,,, 'C,'D,'S           |
| 03510 | FF7C | 0D |      | MCL1   | FCB   | \$D,\$A,,,4                   |
| 03520 | FF81 | 0D |      | STRG1  | FCB   | \$D,\$A,,, 'B,'E,'G,'A,\$20,4 |
| 03530 | FF8B | 0D |      | STRG2  | FCB   | \$D,\$A,,, 'E,'N,'D,'A,\$20,4 |
| 03535 | FF95 | 00 |      | STRG3  | FCB   | ,\$16,4                       |
| 03540 | FF99 | 0D |      | MTAPE1 | FCB   | \$D,\$A,,, 'S,'1,4            |
| 03550 | FFA1 | 00 |      | MTAPE2 | FCB   | ,\$12,\$7F,\$D,\$A,,, 'S,'0,4 |
| 03551 | FFAC | 0D |      | MTAPE3 | FCB   | \$D,\$A,,, 'S,'9,,,4          |
| 03552 | FFB5 | 20 |      | MTAPE4 | FCB   | \$20,'X,'=,\$20,4             |
| 03600 | FFBA |    |      | TRACE  | EQU   | *                             |
| 03605 | FFBA | 86 | 5F   |        | LDA A | #'-                           |
| 03610 | FFBC | BD | FCA8 |        | JSR   | OUTCH                         |
| 03612 | FFBF | BD | FCAB |        | JSR   | INCH                          |
| 03614 | FFC2 | 81 | 52   |        | CMP A | #'R                           |
| 03616 | FFC4 | 26 | 05   |        | BNE   | *+7                           |
| 03618 | FFC6 | 7F | F004 |        | CLR   | TRACAD                        |
| 03620 | FFC9 | 20 | A7   |        | BRA   | C5                            |
| 03622 | FFCB | 81 | 43   |        | CMP A | #'C                           |
| 03624 | FFCD | 27 | 1D   |        | BEQ   | TRACE1                        |
| 03626 | FFCF | 81 | 53   |        | CMP A | #'S                           |
| 03628 | FFD1 | 26 | E7   |        | BNE   | *-8                           |
| 03630 | FFD3 | BD | FCBC |        | JSR   | BYTE                          |
| 03632 | FFD6 | B7 | F11A |        | STA A | TRSCNT                        |
| 03634 | FFD9 | 20 | 28   | 09     | BRA   | *+5                           |
| 03636 | FFDB | BF | F116 | TRACYC | STS   | TSP                           |
| 03638 | FFDE | BD | FCCE |        | JSR   | OUTSTG                        |
| 03640 | FFE1 | BD | FDD6 |        | JSR   | PRTREG                        |

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E7

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\*+8







|        |                     |            |               |
|--------|---------------------|------------|---------------|
| 03642  | FFE4 7D F11A        | TST        | TRSCNT        |
| 03646  | FFE7 27 D1          | BEQ        | TRACE         |
| 03648  | FFE9 7A F11A        | DEC        | TRSCNT        |
| 03650  | FFEC 7C F004 TRACE1 | INC        | TRACAD        |
| 03652  | FFEF CE FFDB        | LDX        | #TRACYC       |
| 03654  | FFF2 FF F102        | STX        | NIO           |
| 03656  | FFF5 7E FDAF        | JMP        | CONTIN        |
| <hr/>  |                     |            |               |
| 03700  | FFF8                | ORG        | IO+1024-8     |
| 03800  | FFF8 FC00           | FDB        | IO            |
| 03810  | FFFA FC0A           | FDB        | SWIR          |
| 03820  | FFFC FC05           | FDB        | POWDWN        |
| 03830  | FFFE FD3A           | FDB        | START         |
| <hr/>  |                     |            |               |
| 03840  | F000                | ACIAAD EQU | \$F000        |
| 03845  | F004                | TRACAD EQU | \$F004        |
| 03850  | F100                | ORG        | \$F100        |
| 03860  | F100 0002           | IOV RMB    | 2             |
| 03870  | F102 0002           | NIO RMB    | 2             |
| 03880  | F104 0002           | ACIAVC RMB | 2             |
| 03890  | F106 0002           | SWIVEC RMB | 2             |
| 03900  | F108 0002           | BEGA RMB   | 2             |
| 03910  | F10A 0002           | ENDA RMB   | 2             |
| 03920  | F10C 0002           | TW RMB     | 2             |
| 03940  | F10E 0001           | BYTEC1 RMB | 1             |
| 03950  | F10F 0001           | BYTEC2 RMB | 1             |
| 03960  | F110 0002           | XTEMP3 RMB | 2             |
| 03970  | F112 0001           | CKSM RMB   | 1             |
| 03980  | F113 0001           | XHI RMB    | 1             |
| 03990  | F114 0001           | XLO RMB    | 1             |
| 04010  | F115 0001           | TEMP1 RMB  | 1             |
| 04030  | F116 0002           | TSP RMB    | 2             |
| 04050  | F118 0001           | MCONT RMB  | 1             |
| 04053  | F119 0001           | STATUS RMB | 1             |
| 04055  | F11A 0001           | TRSCNT RMB | 1             |
| 04060  | F1B0                | TSTACK EQU | \$F100+256-80 |
| 04070  | F1E2                | CSTACK EQU | TSTACK+50     |
| 04080  | F1F8                | TABLE1 EQU | \$F100+256-8  |
| 04090  |                     | END        |               |
| IO     | FC00                |            |               |
| POWDWN | FC05                |            |               |
| SWIR   | FC0A                |            |               |
| RDRON  | FC0F                |            |               |
| NOECHO | FC14                |            |               |
| LOAD   | FC1C                |            |               |
| LOAD3  | FC1E                |            |               |
| LOAD4  | FC2E                |            |               |
| LOAD11 | FC4A                |            |               |
| LOAD15 | FC56                |            |               |
| OUTQM  | FC5B                |            |               |
| LOAD21 | FC5F                |            |               |
| C1     | FC5F                |            |               |
| PRTHDR | FC62                |            |               |
| PRTHD1 | FC71                |            |               |
| PRTHD3 | FC84                |            |               |
| C11    | FC95                |            |               |





OUTHL FC9A  
 OUTHR FC9E  
 OUTCH FCA8  
 INCH FCAB  
 BADDR FCAE  
 BADR1 FCB8  
 BYTE FCBC  
 OUTSTG FCCE  
 PDATA2 FCD3  
 PDATA1 FCD6  
 CHANGE FCDD  
 CHA1 FCE1  
 C3 FCFA  
 CHA14 FCFD  
 CHA12 FCFE  
 CHA11 FD0D  
 INHEX FD11  
 IN1HG FD25  
 OUT2H FD26  
 OUT2HA FD28  
 OUT4HS FD31  
 OUT2HS FD33  
 OUTS FD35  
 START FD3A  
 CONTRL FD51  
 CONTIN FDAF  
 CL1 FDB6  
 SFE FDC5  
 PRNTRG FDD1  
 C4 FDD3  
 PRTREG FDD6  
 INCH1 FDEF  
 PNHOFF FDF2  
 OUTCH1 FDF4  
 RDROFF FDF7  
 ECHO FDFB  
 ECH01 FE00  
 PUNCH FE04  
 PUN35 FE0F  
 PUN11 FE15  
 PUN22 FE27  
 PUN23 FE29  
 PUN40 FE3A  
 PUN32 FE4D  
 PUN50 FE5E  
 PUNT2 FE6A  
 SADDR FE6F  
 PRINT FEA2  
 PRT1 FEB8  
 PRT2 FEC5  
 SELCAR FEE5  
 PRT3 FEF1  
 PRT4 FEF4  
 INCMD FEF6





1. 1980-1981  
2. 1981-1982  
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34. 2013-2014  
35. 2014-2015  
36. 2015-2016  
37. 2016-2017  
38. 2017-2018  
39. 2018-2019  
40. 2019-2020  
41. 2020-2021  
42. 2021-2022  
43. 2022-2023  
44. 2023-2024  
45. 2024-2025  
46. 2025-2026  
47. 2026-2027  
48. 2027-2028  
49. 2028-2029  
50. 2029-2030

NEH  
FUNDING HUMANITIES RESEARCH





OUTEE FEFD  
 OUT1A FF00  
 RESTOR FF08  
 INEEE FF0D  
 INC1 FF10  
 SAVE FF26  
 PNCHHD FF2D  
 PCHH1 FF40  
 PCHH2 FF4E  
 PCHH3 FF56  
 PNCHTR FF6C  
 C5 FF72  
 MCL0 FF75  
 MCL1 FF7C  
 STRG1 FF81  
 STRG2 FF8B  
 STRG3 FF95  
 MTAPE1 FF99  
 MTAPE2 FFA1  
 MTAPE3 FFAC  
 MTAPE4 FFB5  
 TRACE FFBA  
 TRACYC FEDB  
 TRACE1 FFEC  
 3652 FFEF  
 ACIAAD F000  
 TRACAD F004  
 IOV F100  
 NIO F102  
 ACIAVC F104  
 SWIVEC F106  
 BEGA F108  
 ENDA F10A  
 TW F10C  
 BYTEC1 F10E  
 BYTEC2 F10F  
 XTEMP3 F110  
 CKSM F112  
 XHI F113  
 XLO F114  
 TEMP1 F115  
 TSP F116  
 MCONT F118  
 STATUS F119  
 TRSCNT F11A  
 TSTACK F1B0  
 CSTACK F1E2  
 TABLE1 F1F8

TOTAL ERRORS 00003



